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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/241,177	02/01/1999	SALMAN AKRAM	3638US-(98-0	8330

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EXAMINER

NOVACEK, CHRISTY L

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/241,177

Applicant(s)

AKRAM ET AL.

Examiner

Christy L. Novacek

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-34,36,38,39,44-46,48,50 and 51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-34,36,38,39,44-46,48,50 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the amendment filed June 23, 2003.

Response to Amendment

The limitations added to claims 32 and 44 are sufficient to overcome the rejections of claims 32-37, 39, 44-49 and 51 under 35 U.S.C. 103(a) as being unpatentable over Chan et al. (US 5,998,860) in view of Lin et al. (US 5,239,198). Therefore, these rejections are hereby withdrawn.

The limitations added to claims 32 and 44 are sufficient to overcome the rejections of claims 32, 38, 44, and 50 under 35 U.S.C. 103(a) as being unpatentable over Chiu (US 5,243,497) in view of Lin et al. (US 5,239,198). Therefore, these rejections are hereby withdrawn.

The limitations added to claims 32 and 44 are sufficient to overcome the rejections of claims 35-37, 39, 47-49 and 51 under 35 U.S.C. 103(a) as being unpatentable over Chiu in view of Lin et al., and further in view of Chan et al. Therefore, these rejections are hereby withdrawn.

Claim Objections

Claims 32 and 44 are objected to because of the following informalities:

In the next to last line of claim 32, the word "lease" should be replaced with "least".

In lines 23 and 26 of claim 44, the periods [.] should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32-34, 36, 38, 39, 44-46, 48, 50 and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the next to last lines of each of claims 32 and 44, the limitation of “at least one semiconductors adjacent said slot” does not make sense as written. Either “die” or “dice” should be added after the word “semiconductors” so that this limitation has antecedent basis in the claims.

Claim 48 recites the limitation of “The method of claim 47”. However, claim 47 has been cancelled.

Response to Arguments

Applicant's arguments filed June 23, 2003 have been fully considered.

The Examiner agrees with applicant's argument that none of the prior art references teach or suggest encapsulating the wires with glob-top material such that the material contacts the edges of the surrounding semiconductor dice. Therefore, the rejections of claims 32-34, 36, 38, 39, 44-46, 48, 50 and 51 as being unpatentable over the prior art references have been withdrawn.

Allowable Subject Matter

Claims 32-34, 36, 38, 39, 44-46, 48, 50 and 51 would be allowable if claims 32, 44 and 48 are rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

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The primary reason for the indication of the allowable subject matter of claims 32-34, 36, 38, 39, 44-46, 48, 50 and 51 is the inclusion therein, in combination as currently claimed, of the limitations of having semiconductor dice arranged alternately on both sides of a substrate wherein wires connected to the die are arranged in through-slots in the substrate and are connected to conductive patterns on both sides of the substrate which are connected to each other by conductive vias through the substrate and wherein the wires are encapsulated with glob-top material such that the material contacts the edge of surrounding dice. This limitation is found in claim 32-34, 36, 38, 39, 44-46, 48, 50 and 51 and is neither disclosed nor taught by the prior art of record, alone or in combination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christy L. Novacek whose telephone number is (703) 308-5840. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

CLN
July 28, 2003


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800